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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,157	02/01/2002	Michael Franklin Glass	02004.056	8262

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EXAMINER

ROSENBERG, LAURA B

ART UNIT	PAPER NUMBER
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3616

DATE MAILED: 01/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,157

Applicant(s)

GLASS, MICHAEL FRANKLIN

Examiner

Laura B Rosenberg

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed on November 13, 2003, in which claims 1-8 were amended, claim 9 was canceled, and claims 10-17 were added.

Drawings

2. The drawings were received on November 13, 2003. These drawings are acceptable.

Specification

3. The abstract of the disclosure is objected to because "axel" should be --axle-- (line 5). Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claims 1, 3, 10, and 12 are objected to because of the following informalities: "axel" should be --axle--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 7 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the components" in line 2. There is insufficient antecedent basis for this limitation in the claim.

In regards to claim 12, there is no embodiment shown in the figures or described in the specification which shows auxiliary spring means mounted with the upper leaf spring at a position intermediate (or in the middle of) the vehicle axle. Thus, it is unclear what the applicant is attempting to claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 5, 7, 8, 10-13, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Orndorff, Jr. et al. (5,007,660). In regards to claims 1, 3, 8, 10, and 17, Orndorff, Jr. et al. disclose a suspension system for a vehicle wheel set (#5) comprising an upper leaf spring (upper leaf of #8) and a lower leaf spring (lower leaf of #8), each being mounted on opposed sides of an associated vehicle generally transversely of the associated vehicle axle (#6). One end (near #10) of each upper and lower leaf spring comprises connection means (#10) for attachment to an associated

vehicle chassis (#4), the lower leaf spring being mounted over the associated vehicle axle (best seen in figure 1) with an opposite end (near #28) forming a further connection means (#12, 15, 20, 21) for attachment to the associate vehicle chassis, and auxiliary spring means (#28, 60) are mounted in series with the upper leaf spring (column 1, lines 30-37; column 3, lines 41-46) and arranged to alter the spring/deflection rate in proportion to the imposed load at constant ride height (column 1, lines 30-46). Though not specifically pointed out, the springs are arranged such that they can provide the associated vehicle with ride characteristics and dynamic deflection geometry substantially the same as those of a conventional leaf spring system around the normal loading range.

In regards to claims 2 and 11, Orndorff, Jr. et al. disclose the auxiliary spring means being mounted in series with the upper leaf spring at an end (near #28) distant from the connection means (near #10) for attaching one end of each upper and lower leaf spring to the associate vehicle chassis (best seen in figure 1).

In regards to claims 5 and 15, Orndorff, Jr. et al. disclose the auxiliary spring means comprising manual mechanical spring means (#28, 60; best seen in figures 2, 6).

In regards to claims 7 and 16, Orndorff, Jr. et al. disclose "the components" being arranged to substantially reduce torsion being applied to the axle (via torsion spring #28, 60) and thereby maintain full axle control.

In regards to claim 13, Orndorff, Jr. et al. disclose "an opposite end" (near #28, 60) of the upper leaf spring being spaced above the lower leaf spring (the entire upper

leaf spring is spaced above the lower leaf spring) and the auxiliary spring means (#28, 60) being mounted on the opposite end of the upper leaf spring (best seen in figure 1).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orndorff, Jr. et al. (5,007,660) in view of Assh (5,024,462). In regards to claim 4, Orndorff, Jr. et al. do not disclose the auxiliary spring means comprising an air spring. Assh teaches a suspension system (#1) for a vehicle wheel set (best seen in figure 1) comprising an upper leaf spring (#25, 49) and a lower leaf spring (lower leaf of #13, 51), each being mounted on opposed sides of an associated vehicle generally transversely of the associated vehicle axle (#3). One end (near #9) of each upper and lower leaf spring comprises connection means (#9, 15) for attachment to an associated vehicle chassis (#7), the lower leaf spring being mounted with an opposite end (near #19) forming a further connection means (#11, 21) for attachment to the associate vehicle chassis, and auxiliary spring means (#17, 19, 23, 45, 47) are mounted with the upper leaf spring (best seen in figures 1, 5). The auxiliary spring means comprises manual mechanical spring means (#17, 19, 45, 47; best seen in figures 2, 5) and an air spring (#23). It would have been obvious to one skilled in the art at the time that the invention

was made to modify the suspension system of Orndorff, Jr. et al. such that it comprised an air spring as claimed in view of the teachings of Assh so as to allow the energy resulting from big shocks to be absorbed essentially by a leaf spring suspension while the energy resulting from small shocks is absorbed by an air spring (Assh: column 1, lines 39-42).

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Orndorff, Jr. et al. (5,007,660) in view of Hedenberg et al. (5,351,986). In regards to claim 6, Orndorff, Jr. et al. do not disclose height detection and adjustment means. Hedenberg et al. teach a suspension system for a vehicle wheel set (#14; column 5, lines 34-40) comprising an upper leaf spring (#40) and a lower leaf spring (#38), each being mounted on opposed sides of an associated vehicle generally transversely of the associated vehicle axle (#15). One end (near #44) of each upper and lower leaf spring comprises connection means (#25, 27, 44) for attachment to an associated vehicle chassis (#19) and auxiliary spring means (#33) are mounted in series with the upper leaf spring (column 4, lines 8-11) and arranged to alter the spring rate in proportion to the imposed load at constant ride height (column 4, lines 30-42). The auxiliary spring means comprises means (#49) arranged to detect the height across the vehicle and to adjust the auxiliary spring means to compensate for any difference in height (column 5, lines 15-21). It would have been obvious to one skilled in the art at the time that the invention was made to modify the suspension system of Orndorff, Jr. et al. such that it comprised a height detection and adjustment means as claimed in view of the teachings

of Hedenberg et al. so as to improve the ride and stability of the vehicle and maintain the level of the vehicle during acceleration and deceleration (Hedenberg et al.: column1, lines 33-38).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura B Rosenberg whose telephone number is (703) 305-3135. The examiner can normally be reached on Monday-Friday 7:00am-3:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (703) 308-2089. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Lama B. Rosentz
LBR

Paul N. Dickson 11/21/04
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